



PREVENTING AND RESPON DISEASE OUTBREAKS

Detection, Response, Lessons
Learned

MDA/Animal Health

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Missouri Agriculture

- **Top Ten in the United States**



SOYBEANS - 9TH
181 million bushels



BEEF COWS - 3RD
2 million head



CORN - 10TH
437 million bushels



BROILERS - 9TH
294 million head



HOGS - 7TH
3 million head



TURKEYS - 5TH
19 million head



RICE - 4TH
12 million cwt



COTTON - 8TH
400,000 bales

- **Export Market is growing**



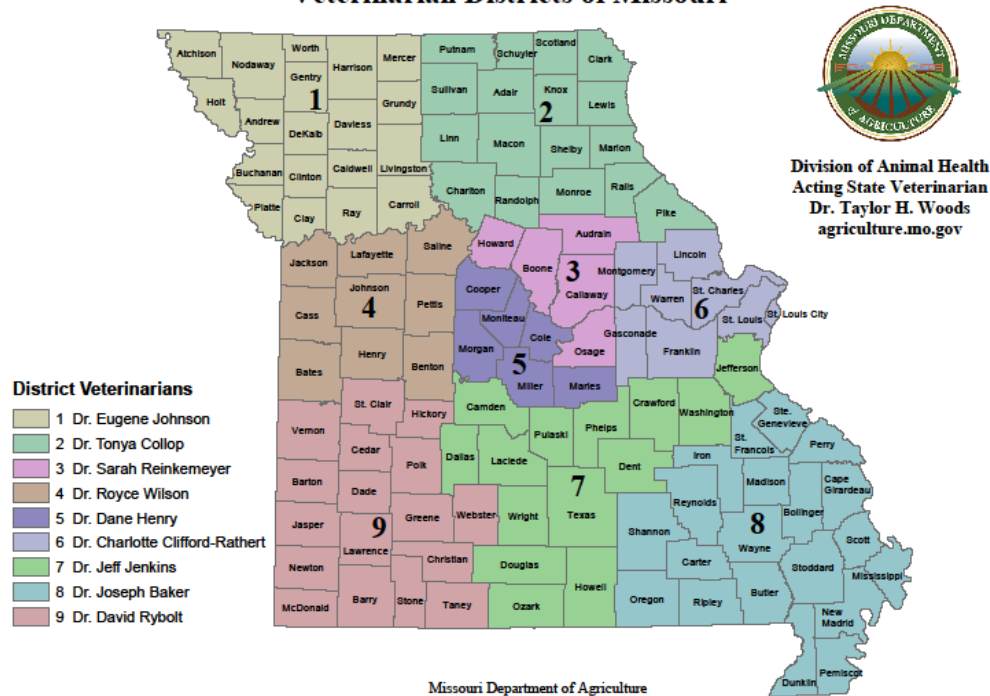
Surveillance Activities

- **Program Disease testing**
 - Testing for movement or change of ownership
 - Voluntary programs
- **Livestock Markets**
 - Veterinary inspections
- **Slaughter plants**
- **Accredited Veterinarians**
- **Shared information for wildlife testing**

Contacts for Reporting

1. Local veterinarian
2. State or Federal Veterinarian

Veterinarian Districts of Missouri



Updated: November 14, 2018

Missouri Department of Agriculture
P.O. Box 630
1616 Missouri Boulevard
Jefferson City, Missouri 65102

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Overview of Response

- **Suspicion of Disease**
- **Diagnosis of Disease and confirmation**
- **Quarantine and Control Zones**
- **Release of Quarantine Control Zones**
- **Release of Quarantine of Infected Premise**



Response Activities

- **Quarantine**
- **FADD (Foreign Animal Disease Diagnostician)**
 - Assigned to case for investigation and sampling if needed
- **Conduct necessary testing/sampling**
 - Samples submitted to state regulatory diagnostic laboratory
 - Confirmation by National Veterinary Services Laboratory (NVSL)
- **Perform Epidemiological Investigation**
- **Determine course of action**
 - Monitor herd/flock and/or controlled marketing
 - Test and remove positive animals
 - Depopulate the herd/flock

FAD PReP Disease Response Documents

Last modified: Jan 26, 2018

- **Disease Response Plans - The Red Books**
- **Foot-and-Mouth Disease (September 2014)**
 - FMD Response: The Red Book Presentation ([Long/Short](#))
- **Highly Pathogenic Avian Influenza (May 2017)**
 - HPAI Response: The Red Book Presentation ([Long/Short](#))
- **Classical Swine Fever (May 2013)**
 - CSF Response: The Red Book Presentation ([Long/Short](#))
- **Newcastle Disease (February 2014)**
 - ND Response: The Red Book Presentation ([Long/Short](#))
- **Disease Response Strategies**
- **African Swine Fever - (draft September 2013)**
- **Japanese Encephalitis - (draft August 2013)**
- **New World Screwworm Myiasis - (January 2018)**
- **Peste Des Petits Ruminants - (draft May 2013)**
- **Rift Valley Fever - (draft August 2013)**
- **FAD PReP Strategy Documents**
- **Classification of Phases and types of a Foot-and-Mouth Disease Outbreak and Response (draft March 2013)**
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Summary of MO HPAI Incidents

Jasper County

- **Commercial Turkey Flock 1– 30,100 toms age 20 weeks of age**
 - March 6, 2015 Report to MDA of increased mortality
 - 35 & 70 to 300 & 900 the next day, 2 additional barns with normal mortality
 - Samples collected by company veterinarian and to MDA lab for testing
 - Flock/Premises placed under quarantine
 - March 7 Samples tested at MDA NAHLN lab – presumptive positive AI Matrix and H5, samples were then delivered to NVSL by MDA personnel for confirmation testing
 - March 8 Samples confirmed HPAI H5 positive, appraisal on flock was completed by USDA
 - March 9 KS State Veterinarian and ADD notified that Control Zone included part of KS, MO surveillance for backyard flocks and testing begins
 - March 10 Flock depopulated by company, was determined that carcass disposal would be by in house composting



Summary of MO HPAI Incidents

Jasper County

- 19 backyard flocks identified in the 10K Control Zone and tested 2 times 2 weeks apart (24 flocks in KS)
- Equipment on infected premise was cleaned and disinfected by MDA and USDA
- No other commercial operations were in the 10K Control Zone (Including KS)
- April 8 Control zones released in MO and KS
- Infected Premise remained under quarantine pending removal of compost from houses, cleaning and disinfection of houses
- Infected premises released from quarantine June 13, 2015



Summary of MO HPAI Incidents

Moniteau County

- **Commercial Turkey Flock – 23,000 toms 17 weeks of age and 11,000 week old poults (poults did not test positive or experience increased mortality)**
 - March 4 – slight increase in mortality in 1 house
 - March 6 – mortality increases in the one house and samples are collected and submitted to UMC for diagnostic work up
 - March 7 – mortality in 1 house increases to >1000 and 486 in the other house. Samples collected for AI testing. Flock placed under quarantine
 - March 8 – samples submitted to MDA NAHLN lab, presumptive positive AI matrix and H5 samples delivered to NVSL by MDA personnel
 - March 9 – samples confirmed positive HPAI H5 at NVSL
 - March 12 – flock depopulated by USDA contractor, disposal by in house composting



Summary of MO HPAI Incidents

Moniteau County

- 10K Control Zone established
 - 168 backyard flocks identified and tested 2 times 2 weeks apart (began March 11 completed April 3)
 - 11 small enterprise flocks identified and tested weekly
 - 44 commercial flocks involving 3 companies
 - 1 State Inspected poultry processing plant
 - Mennonite community outreach
 - Protocols for permitted movements developed and approved
 - **Permitted movements** allowed after all in zone had at least one negative test (Began issuing permits March 19, 10 days after control zone established)
- April 3 Control zone released
- Infected premises released from quarantine July 5, 2015



Summary of MO HPAI Incidents

Lewis County

- **Backyard flock in 2 locations – one premise positive the other a dangerous contact tested negative**
 - April 24 phone call from accredited veterinarian concerned about client that had a couple of dead chickens
 - April 28 samples submitted to UMC
 - May 1 presumptive positive AI matrix and H5
 - May 3 both flocks depopulated and disposal was by burial
 - May 5 confirmed positive H5 at NVSL
 - 10 K quarantine zone established no commercial flocks present and 1 small enterprise flock producing eggs
 - 46 backyard flocks tested twice
 - May 24 Control zone released
 - Infected premises released from quarantine July 13, 2015



Summary of LPAI 2018

- **Commercial Turkey flock**
 - Detected 3/2 on routine sampling confirmed 3/3
 - 2 commercial and 4 backyard flocks in control zone
 - Controlled marketing 3/23
 - Quarantine released May 10
- **Backyard layer for commercial hatchery**
 - Detected due to increased testing requirements for movement to IA
 - Detected 3/14 at lab Confirmed 3/15
 - Depopulated 3/27 by CO₂
 - Flocks tested in control zone – 43
 - Quarantine released 6/15



Continuity of Business Secure Food Supply Plans

Secure Poultry Supply Plan

Secure Egg Supply Plan

Secure Egg Supply: Summary of Products and Permitting Requirements
(August 2013)

Secure Egg Supply Plan [full document] (August 2013)

Supplement 1: Surveillance guidelines

Supplement 2: Cleaning and disinfection guidelines

Supplement 3: Permitted movement checklists

Supplement 4: Proactive product-specific risk assessments

Supplement 5: Permit examples

Supplement 6: Voluntary Preparedness Components

Secure Egg Supply Demonstration Videos (ISU CFSPH)

Secure Egg Supply Training & Educational Materials

Secure Broiler Supply Plan

Secure Turkey Supply Plan

Secure Pork Supply Plan

Secure Milk Supply Plan

State/Regional Secure Milk Supply Projects

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Costs of Outbreaks

- **HPAI December 2014 – June 2015**
 - 211 commercial premises and 21 backyard flocks
 - Depopulated 7.5 million turkeys, 42.1 million egg layers and pullets
 - >\$950 million in indemnity payments
 - USDA estimated losses
 - Turkey and chicken losses \$1.6 billion
 - Economy wide losses \$3.3 billion



Lessons Learned

- **Biosecurity, Biosecurity, Biosecurity**
 - Have a written plan
 - Plan needs to work for my operation
 - Keep plan up to date with operation
 - Have plan to increase level of security when a disease threat is near
 - Have plan to increase level of security when a disease is confirmed in the area
 - Is there an area of my operation that I can make more secure if necessary



Lessons Learned continued

- **What to expect**
 - We need to know where you are located
 - Quarantine of farm and control zone
 - Biosecurity requirements for movements
 - Testing for permitted movements
 - Secure Supply Plans
 - Biosecurity audits



Lessons Learned continued

- **Be as prepared as possible**
 - Have a plan
 - How will I get feed to my livestock?
 - How will I manage without moving animals for several days or weeks? May include those not affected by this disease.
 - What resources do I have available or will be able to acquire in an emergency?
 - How will my family be affected with movement restrictions?



Lessons Learned continued

- **Secure Supply Plan**
 - Key to permitted movements
 - Science based information
 - Know what information is contained in plans and how it will work for your operation



Questions?

